Raschet obzhatiy pri prokatke listov it lent 12 tsvetnykh metallov i splavov

AID 584 - I

of calculating the pressure and force of rolling by means of curves obtained through experiments; general methods of reduction calculations in hot and cold rolling for the basic types of rolling mills used for nonferrous metal working, and the comparison of different calculation methods. The book contains instructions on the selection of roll profiles under various rolling conditions, and is provided with tables and diagrams.

No. of References: Total 57; 26 Russian, 1927-1949. Facilities: A. I. Tselikov, E. S. Rokotyan, S. I. Gubkin and others.

2/2

THE SECOND SECON

FARTIOLIS, N. H.

ERMYPOLIT, W. N. -- "Calculation of hadnotton in Rolling of Smeets and Strips From Honferrous Metals and Alloys." Sub 3 Rec 52, Moscow Tast of Honferrous Metals and Gold imeni M. T. Kalinin. (Dissertation for the Degree of Candidate in Technical Sciences).

Ud: Vochemaya Hoshwa, January-December 1952

Mikolayevich, Inzhener; PERLIN, I.L., professor, retsenzent;
RELOV, A.P., inzhener, retsenzent; SHPOMMANLAIY, L.Ya., inzhener, retsenzent; HEMERNIKOV, V.b., redektor, KAMAMEVA, O.M., redektor izdatel'stwa; VAYNONIENA, Ta.B., tekhnicheskiy redektor

[Production of sheets and strips from light-weight alloys] Proizvodstvo listov i lent iz legkith splavov. Moskva, Jos. nauchno-tekhn. izd-vo lit-ry on chernoi i tsvetnoi metallurgii, 1957, 310 p.

(Molling (Metalwork))

PHASE I BOOK EXPLOITATION

SOV/5530

- Smiryagin, A.P., N.Z. Dnestrovskiy, A.D. Landikhov, N.N. Kreyndlin, G.N. Krucher, V.A. Golovin, B.L. Urin, and V.N. Gol'dreyer
- Spravochnik po obrabotke tsvetnykh metallov i splavov (Handbook on the Processing of Nonferrous Metals and Alloys) Moscow, Metallurgizdat, 1961. 872 p. Errata slip inserted. 9,300 copies printed.
- Ed. (Title page): L. Ye. Miller, Candidate of Technical Sciences; Ed. of Publishing House: K. D. Misharina; Tech. Ed.: M.K. Attopovich.
- PURPOSE: This handbook is intended for technical personnel of metalworking and machine-building plants, design organizations, scientific research institutes, and laboratories, and for students at schools of higher technical education.
- COVERAGE: The handbook discusses the physicochemical and mechanical properties of certain elements and the composition and properties of

Card-1/9-

Handbook on the Processing (Cont.)

SOV/5530

nonferrous metals and alloys, and includes an explanation of the theory of principal methods for the hot and cold working of nonferrous metals and alloys. Reference material on designing, ergineering-economic planning, quality control, and other aspects of production is systematized and presented. Each part of the handbook contains explanations of principles underlying basic processes, presents formulas for process and engineering calculations, analyzes properties of metals and alloys, gives parameters of accompanying and secondary processes, and describes equipment and tools and their operational parameters. The authors thank I. L. Perlin, Ya. F. Shabashov, and M. F. Bazhenov. References accompany each part, as well as various chapters. There are 130 references, mostly Soviet.

Card 2/9 ·

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826430

Handbook on the	Processing (Cont.)	SOV/5530	
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Bibliography			185
	PART III. THEORY OF MET [by N. N. Kreyndlin, Ca Technical Science	ndidate of	
Ch. I. Fundame	ntals of the Elementary Theor	y of Rolling	189
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"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826430

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	Ch. IV.	Calculation of the Metal Pressure Taking Into According and Workhardening of the Metal and Flat of Rolls	
	Ch. V.	Spread in Rolling	252
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[2]中以为在我的中国解析,把那些企图的数据和编码和编码 能 态。但是第三世纪的发展的关键中的专家与中国企业企业。	THE TWO SENSONS THE SENSON SENSONS SEN
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Handbook on the Processing (Cont.)	SOV/5530
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NONFERROUS METALS AND ALLOYS	3 '
[by B. L. Urin, Engineer]	\$\frac{1}{2}\text{eq.}
Ch. I. Melting Conditions and Preparation of the Charge	311
Ch. II. Melting Furnaces	321
Ch. III. Manufacture of Ingots	337
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ferrous N	ure of Sheet, Strip, and Band I Metals and Alloys ovin, Candidate of Technical Sc neer]	·	359
	ture of Aluminum-Alloy Sheet yndlin and G. N. Krucher, Eng		424
Ch. III. Manufac [by G. N. Krud	cture of Aluminum and Aluminucher]	ım-Alloy Foil	482
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Card 7/9			
- 1000 m			

LANDIKHOV, Aleksandr Denisovich; KREYNDLIN, N.N., red.; KAMAYEVA, O.M., red. izd-va; KARASEV, A.I., tekhn. red.

[Production of nonferrous metal pipes, rods, and shapes]Pro - izvodatvo trub, prutkov i profilei is tsvetnykh metallov. Izd.2., perer. i dop. Moskva, Metallurgizdat, 1962. 390 p.

(MIRA 16:1)

(Nonferrous metals) (Aplling (Metalwork))

KREYNDLIN, Nikolay Naumovich; MILLER, L.Ye., kand.tekhn. nauk, retsenzent; KRÜCHER, G.N., red.; MISHARINA, K.D., red. izd-vz; MIKHAYLOVA, V.V., tekhn. red.

[Calculating on reductions during the rolling of nonferrous metals] Raschet obzhatii pri prokatke tsvetnykh metallov. Izd.2., perer. i dop. Moskva, Metallurgizdat, 1963.

407 p. (MIRA 16:5)

(Rolling (Metalwork)) (Nonferrous metals)

AZERNIKOV, V.; AKLAZOROV, M.; ARSKIT, F.; BAKANOV, S.; EELOUSOV, I.;
BILENKIN, D.; VAMEL', I.; VLADIMIROV, L.; GUSHCHEV, S.;
YELAGIN, V.; YERESHKO, F.; ZHURBINA, S.; KAZARNOVSKAYA, G.;
KALININ., Yu.; KELER, V.; KONOVALOV, B.; KREYNDLIN., Yu.;
LESEDEV, L.; PODGORODNIKOV, M.; RABINOVICH, I.; REPIN, L.;
SMOIXAN, G.; TITARENKO, V.; TOPILINA, T.; FEDCHENKO, V.;
EYDEL'MAN, N.; ETME, A.; NAUMOV, F.; YAKOVLEV, N.;
MIKHAYLOV, K., nauchn. red.; LIVANOV, A., red.

[Little stories about the great cosmos] Malen'kie rasskazy o
bol'shom Kosmose. Izu.2., Moskva, Molodaia gvardiia, 1964.
368 p. (MIRA 18:4)

APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000826430(

一大小學是是一個學的學術。

Use of butadiume in thrombophlebitis of the legs and in hemorrhoidal veins. Klin.med. 35 no.11:125-127 N '57. (MIRA 11:2)

1. In poliklinicheskogo otdeleniya 15-y gorodskoy bol'nitsy (glavnyy vrech P.G.Chuntomov)

(THROMBOPHLEBITIS, ther.
phenylbutasone in thrombophlebitis in legs)

(HEMORRHOIDS, ther.
phenylbutazone)

(PHANYLBUTAZONE, ther. use
hemorrhoids & thrombophlebitis of legs)

KREYNDLIN, Yu.Z.

Treatment of acute hemorrhoidal thrombophlebitis in ambulatory conditions. Thirurgiia 34 no.8:131-132 Ag '58 (MIRA 11:9)

1. Iz poliklinicheskogo otdeleniya 15-y Gorodskoy bol'nitsy Moskvy (zav. khirurgicheskim otdeleniyem M.V. Dement'yeva, glavnyy vrach L.A. Pylayev).

(HEMORPHOIDS, ther.

general & local ther. in ambulatory cond. (Rus))

KILINSKIY, Ye.L.; EXMYNDLIN, Yu.Z.

Superficial cord-like phlebitis. Enirurgia 35 no.4:107-110 Ap '59. (MIRA 12:8)

1. Iz poliklinicheskogo otdeleniya (zav. khirurgicheskogo otdeleniyem N.V.Dement'yeva) 15-y gorodskoy bol'nitsy (glavnyy varch N.D.Vashchenko, nauchnyy konsul'tant - prof. V.A.Ivanov), Moskva. (THROMEOPHLEBITIS, case reports

Mondor's dis. (Rus))

KHEYHDLIN, Yu.Z.

Pathogenesis and treatment of acute thrombophlebitis. Khirurgiia 40 no.5:94-100 My 164. (MIRA 18:2)

1. Kafedra obshchey khirurgii (zav.- prof. V.A. Ivanov) II Moskovskogo meditsinskogo instituta imeni Pirogova.

YERMOLOV, A.S.; KREYNDLIN, Yu.Z.; YEGOROV, I.V.; BOCHAVER, O.S.; KAL'TER, I.S.

Use of indirect cardiac massage in clinical practice. Entrurgia 40 no.7:36-40 J1 '64. (MERA 18:2)

1. Kafedra obshchey khirurgii lechebnogo fakul'teta (zav. - prof. V.A. Ivanov) II Moskovskogo gosudarstvennogo meditsinskego instituta imeni Pirogova.

KREYNDEIN, Yu.Z.

Side effect, ulcerogenic action of butadione. Sov. med. 27
no.12:99-101 0'64. (MIRA 18:11)

1. Kafedra abshche khirurgii (zav.- prof. V.A. Ivanov) lechebnoge fakul'teta II Moskovskogo meditsinskogo instituta imeni Pirogova i khirurgicheskoye otdeleniye (zav.- I.K. Kletskiy) 51-y

bol'nitsy, Moskva.

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826430

KREYNER, S. Kh.

Subject

: USSR/Engineering

AID P - 1093

Card 1/1

Pub. 78 - 4/21

Author

Kreyner, S. Kh.

Title.

Standardization of triple rotary cutter-bits

Periodical

: Neft. khoz., v. 32, #10, 15-18, 0 1954

Abstract

: Graphical and analytical studies of the operation of rotary cutter parts are outlined. The results of these studies led to technological improvements in the manufacturing of cutters. Four tables and 3 sketches.

Institution: VNII burneft (All-Union Scientific Research Institute

of Oil Well Drilling)

Submitted

: No date

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826430

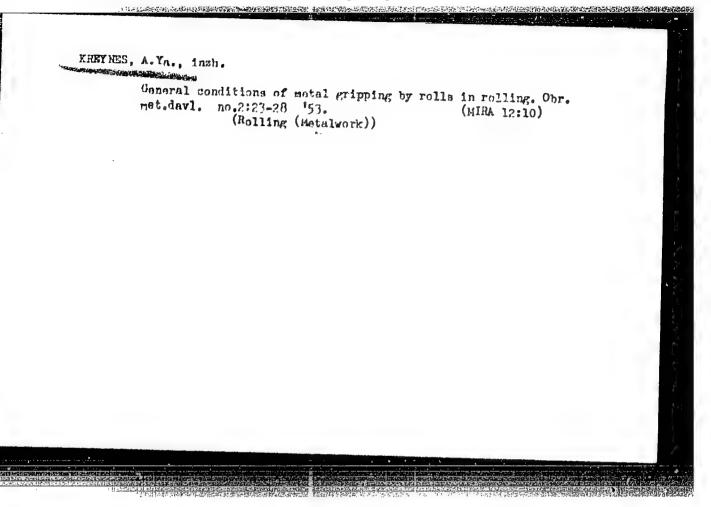
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K	CREYNER, S.Kh.			
	Insertion dies. Neftianik 1 no.12:26		(MIRA 12:3)	
	1. Glavnyy konstruktor zavoda imeni S. (Dies (Metalworking	M. Kiroya.))		
12.22.03	mental v	i so i se est		o transcriptor

Initial operation and adjustment of a contralized wasts-heat boiler unit in connection with open-hearth furnaces at the Stalino Metallurgical Plant. Trudy NTO chern. met. 20:319-327 '60. (MIRA 13:10)

1. Leningradskiy filial TSentral'nogo proyektno-konstruktorskogo byuro tresta "Margochermet".

(Stalino (Stalino Province)--Metallurgical plants)

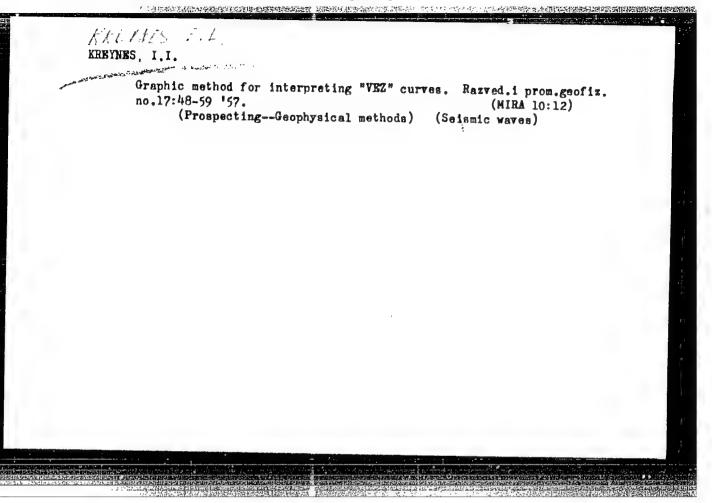
(Boilers)



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1 .	6 (6.) (1.)		- 4

- 2. USUR (600)
- 4. Kuybyshev, Province Geology, Structural
- 7. Report on the work of the Krasnoyarsk electric geomysical exploration party in 1943. Abstract. Izv. Glav. upr. geol. fon. no. 3. 1947

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.



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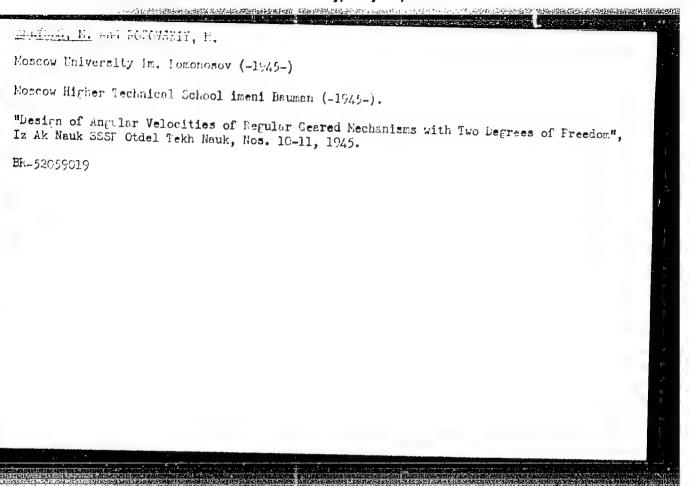
Distortions in vertical electrical prospecting due to vertical contact of electrically inhomogeneous horizons. Prikl. geofiz. no.17:152-161 '57. (MIRA 11:2)

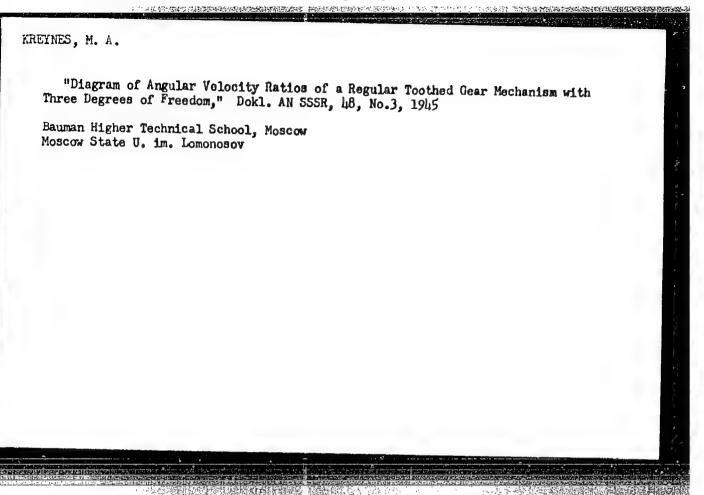
(Prospecting-Geophysical methods)

KIEYNES, E. A. Sur une classe de fonctions de plusieurs variables. Matem. SP., 9 (51), (1941), 713-720. SO: Mathematics in the USSR, 1917-1947 Edited by Kurosh, A. G., Markusevich, A. I. Rashevskiy, P. K. Moscow-leningrai, 1948

"Contribution to the Question of Determining the Efficiency of a Gearing,"
Dokl. AN SSSR, 41, No.8, 1943.

Moscow State U. im. Lomonosov

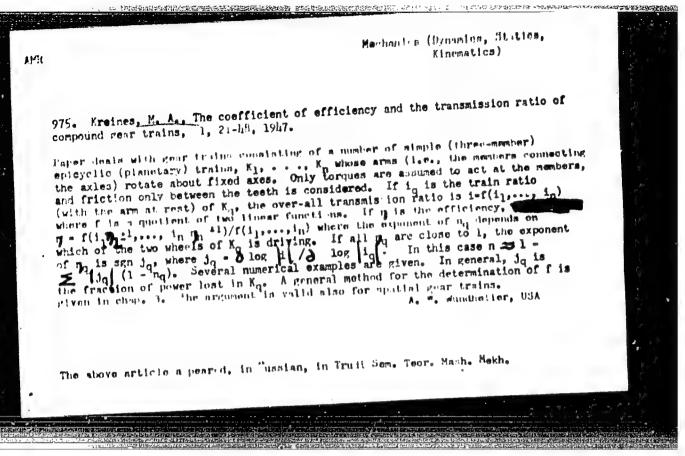




"Determination of the Efficiency of a Toothed-Gear Mechanism with Many Degrees of Freedom," Dokl. AN SSSR, 46, No.7, 1945

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826430



PETROVSKIY, I.G.; VOVCHENKO, G.D.; SALISHCHEV, K.A.; SERGEYEV, E.M.;

MOSKVITIN, V.V.; SRETENSKIY, L.V.; GZL'FOND, A.D.; GOLDERV, V.V.;

ALEKSANDROV, P.S.; SCHOLEV, S.L.; BAKHVALOV, S.B.; GOUBALOV, P.M.;

KREYNES, M.A.; MYASNIKOV, P.V.; ZHIDKOV, M.P.; GAL'PERN, S.A.;

ZHKGALETEA-SHUDSKAYA, M.A.

Vsevolod Aleksandrovich Kudriavtsev; obituary. Vest.Mosk.un, 8

no.12:129 D '53. (NLRA 7:2)

(Kudriavtsev, Vsevolod Aleksandrovich, 1885-1953)

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826430

KREYNES, MA.		
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USSR	Kreines, M. A., and Alzenstat, N. D. On the of nomographing with accuracy up to infin higher order. Dokl. Akad. Nauk SSSR (N.S. 1140 (1954). (Russian)	e possibility I - F/W itesimals of 5.) 95, 1137-
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KREYNES, M.

USSR/Engineering - Mechanics

Card

: 1/1

Authors

: Kreynes, M. and Rozovskiy, M.

Title

: Selection of gear reduction systems consisting of three differential three-link mechanisms

Periodical

: Dokl. AN SSSR, 96, Ed. 6, 1117 - 1120, June 1954

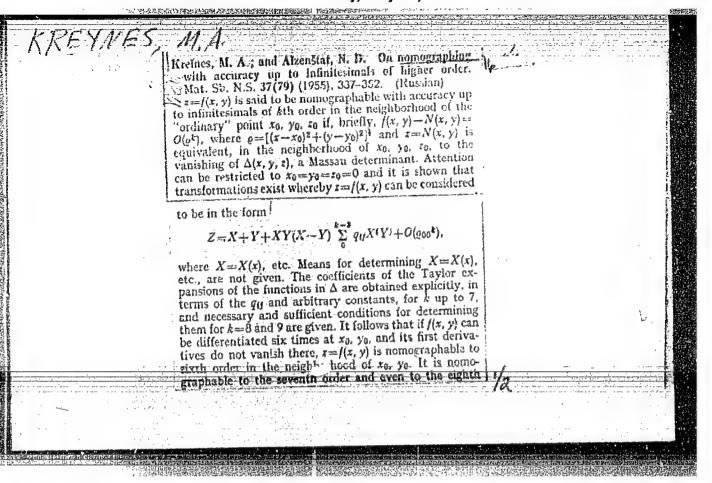
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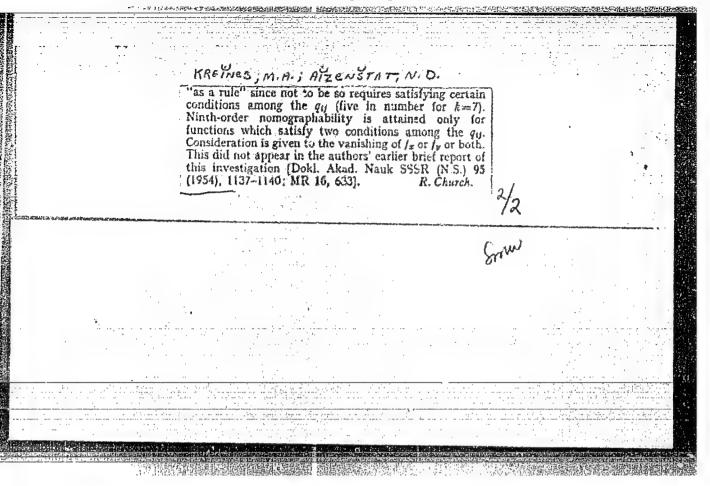
Abstract

Report describes a method of selecting gear reduction systems consisting of three differential three-link mechanisms simply by studying numerous surface diagrams consisting of straight lines only. Statically determinable reductors consisting of three differential three-link mechanisms with basic coaxial links were investigated. It is shown that each such reduction (reducing gear) should have no less than 5 basic links - master link I, slave link II, stationary link and two auxiliary links. One reference. Graphs.

Institution : ...

Presented by: Academician L. I. Sedov, March 19, 1954





ERETNES, M.A., (Moskva); ATZENSHTAT, N.D., (Moskva).

Homographing with accuracy to within higher order terms. Mat.shor.
37 no.2:337-352 S-0 '55. (MIRA 9:1)

(Nomography (Mathematics))

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Call Nr: Transactions of the Third All-union Mathematical Congres Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Mos Shvarts, A. S. (Moscow). Volume Invariant of Coverings	AF 1108825 s (Cont.) Moscow, scow, 1956, 237 pp.
Mention is made of Yefremovich, V. A.	
There are 2 references, both of them USSR.	
Section of Geometry	138-178
Reports by the following personalities are included:	
Ayzenshtat, N. D. (Moscow). Vaynshteyn, I. A. (Moscow), Kreynes, M. A. (Moscow). Nomography of Functions Defined on Nets.	138
Bakel'man, I. Ya. (Leningrad) Evaluation Deformation of a Convex Surface.	138
Bakhvalov, S. V. (Moscow) and Zidkov, N. P. (Moscow). Approximate Solution of the Direct Geodesic Problem.	138-140
Card 45/80	

KREYNES, M.A.; VAYNSHTEYN, I.A.; AYZENSHTAT, N.D.

A device for plotting approximate nomograms. Dokl. AM SSSR
110 no.d: 922-925 0 '56. (MLRA 10:2)

1. Predstavleno akademikom A.N. Kolmogorovym.
(Nomography (Mathematics))
(Mathematical instruments)

KREYNES, N.A.; VAYNSHTEYN, I.A.; AYZENSHTAT, N.D.

Nomograms for functions given on a grid. Dokl. AN SSSR 111 no.5:
941-944 D '56. (MERA 10:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
Predstavleno akademikom A.N. Kolmogorovym.

(Nomography (Mathematics)) (Functions of complex variables)

16(1)

AUTHORS: Kreynes, M.A., Vaynshteyn, I.A., SOV/39-48-3-5/5

Ayzenshtat, N.D. (Moscow)

TITLE: Some Examples of Non-nomographic Functions

PERIODICAL: Matematicheskiy sbornik, 1959, Vol 48, Nr 3, pp 377-395 (USSR)

The authors consider functions which are nomographed on a net ABSTRACT: and functions nomographed by means of continuous functions in

a rectangle. Some examples of non-nomographic functions are given. The results of the paper are already contained in / Ref 1 7. Altogether there are 28 theorems and auxiliary theorems and 2 examples.

There are 1 figure, and 2 references, 1 of which is Soviet,

and 1 German.

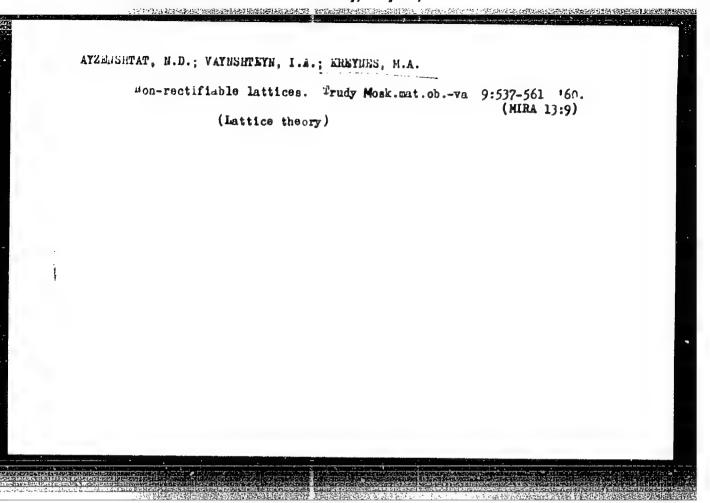
SUBMITTED: October 23, 1957

Card 1/1

16(1),16(2) SOV/20-125-2-5/0/ AUTHORS: Kreynes, M.A., and Kishkina, Z.M. TITTE: On the Approximation by Functions of /Fifth Nomographic ... Order (O priblizhenii funktsiyami pyatogo nomograficheskogo poryadka) PERIODICAL: Doklady Akademit nauk SSSR, 1959, Vol 125, Nr 2, pp 262-265 (USSR) ABSTRACT: The authors construct an example: A nomographable function defined on the net, which can not be approximated by certain functions also nomographable and defined on the same net. There are 2 figures, | table, and 1 Soviet reference. ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov) PRESENTED: December 8, 1958, by A.N.Kolmogorov, Academicia

Card 1/1

SUBMITTED: November 24, 1958



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16,2600

AUTHORS: Vaynshteyn, I.A. and Kreynes, M.A.

TITLE: Sequences of Functions ρf the Form f(X(x)+Y(y))

PERIODICAL: Uspekhi matematicheskikh nauk, 1960, Vol. 15, No. 4, pp. 123-128

TEXT: The authors consider the functions $z = \mathcal{P}(x,y)$ defined in the square R: $[0 \le x \le 1, \ 0 \le y \le 1]$ representable in the form

(1) z = f(X(x)+Y(Y)),

where X(x) and Y(y) are continuous on $0 \le x \le 1$ resp. $0 \le y \le 1$ and z = f(u) on the set of the values which assumes X(x)+Y(y) for $(x,y) \in \mathbb{R}$ ("functions of the form (1)"). A function is called monotone with respect to every variable if it is strongly monotone in every single variable when the other variable is kept constant. V.I.Arnol'd (Ref.1) constructed a sequence of considered functions which in R converged uniformly with respect to a function which was not of the form (1). The authors prove the theorem: Let the sequence $f_n(X_n(x)+Y_n(y))$ of functions of the form (1) converge in R uniformly to a function $\Phi(x,y)$ monotone and continuous in every variable.

Card 1/2

81,751

S/042/60/015/004/009/017XX C111/C222

Sequences of Functions of the Form f(X(x)+Y(y))

Then $\phi(x,y)$ is a function of the form (1) too.

The proof bases on the consideration of the equipotential lines $\frac{1}{2}(x,y)$ =const and the construction of the hexagon of Brianchon and is given geometrically with the aid of five lemmas.

There are 2 figures and 2 references: 1 Soviet and 1 German.

SUBMITTED: January 13, 1959

Card 2/2

68970

16(4) 16,500

\$/020/60/131/02/008/071

AUTHORS:

Areynes, L.A., Vanyshteyn, I.A.,

and Ayzenshtat, N.D.

TITLE:

An Instance of a Lattice Which Cannot be Approximated by Rectifiable Lattices

Med till Hole Lattices

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 131, Nr 2, pp 249-252 (USSR)

ABSTRACT:

Let G be a plane set homeomorphic to the closed square. Three families of curves A,B,C in G are denoted as a lattice S = A,B,C in G if they satisfy the following conditions:
1) through every point of G there goes one curve of the families A,B,C each; 2) two curves of two families intersect at most in one point; 3) for every pair of these families there exists a topological mapping of G for which all curves of the pair go over into straight lines. S is called rectifiable if there exists a topological mapping of G for which all curves of A,B₂C go over into straight lines. Let z = f(x,y) be defined in R: $x \le x \le \overline{x}$, $y \le y \le \overline{y}$. The families of curves x = const, y = const, z = const form the lattice corresponding to the function z = f(x,y).

Card 1/2

68970

An Instance of a Lattice Which Cannot be 5/020/60/131/02/008/071 Approximated by Rectifiable Lattices

Let $p(t) = \begin{cases} -\frac{1}{12(t-1)^7} + \frac{7}{12(t-1)} + \frac{1}{2} & \text{for } 0 \le t \le 2 \\ 1 & \text{for } t > 2 \end{cases}$, and p(t) = p(-2t) for t < 0.

Theorem 2: The lattice which corresponds to the function $z = f(x,y) \equiv x+y-1, 1p(x)p(y)p(x+y)-1$

 $-0.0001xy(x-2)(x-3)(y+1)(y-\frac{3}{2})$ in the square R: $|x| \le 3.5$, $|y| \le 3.5$ cannot be approximated by rectifiable lattices.

There are 3 references, 2 of which are Soviet, and 1 German.

PRESENTED: November 17, 1959, by A.N.Kolmogorov, Academician

SUBMITTED: November 17, 1959

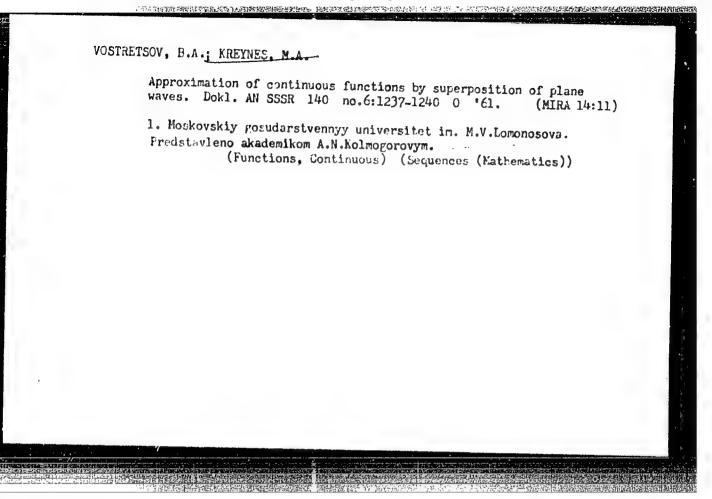
Card 2/2

KISHKINA, Z.M.; KREYHES, M.A.

Nomographing of functions of pewerel variables to within small quantities of higher order. Fart I. Vest. Mosk. un., Ser. 1: mat., mekh.16 no.6:38-45 N-D '61.

1. Kafedra matematicheskogo analiza Moskovskogo universiteta. (Functions of several variables)

(Nomography(Mathematics))



16.6500

8/055/62/000/001/002/007 D299/D303

AUTHOR:

Kishkina, Z. M. and Kreynes, M. A.

TITLE:

On the nomographing of functions of many variables to within infinitesimals of higher order. II

PERIODICAL:

Moskva. Universitet. Vestnik. Seriya I. Matematika, Mekhanika, no. 1, 1962, 9-15

Nomographing is considered of functions of 3 and of 4 va-

riables. This article (Part II) is a continuation of Part I which appeared in no. 6, 1961, of the same periodical. Lemma 1: By means of a nomogram of type x,y; z; w), a function of type

$$w = x + z + yz + Dyz^{3} + z^{2}(Ax^{2} + 2Bxy + Cy^{2}) + o(\rho^{4})$$
 (1)

where A, B, C and D are constants, can be always nomographed (in the neighborhood of the origin) to an accuracy of 4-th order in-Card 1/3

33756 \$/055/62/000/001/002/007 D299/D303

On the nomographing ...

finitesimals; it can be nomographed to within higher-order infinitesimals, only if C=0. This lemma is proved. Theorem 1: The function w=f(x,y,z), defined in the neighborhood of the point (x_0,y_0,z_0) , $(k \geqslant 4)$ times differentiable at that point and satisfying the conditions

$$\frac{\partial w}{\partial z} \Big|_{x_0, y_0, z_0} \neq 0, \qquad \frac{\partial (w, w_z')}{\partial (x, y)} \Big|_{x_0, y_0, z_0} \neq 0$$

can be always nomographed (by a nomogram of type (x,y;z;w)) to within 4-th order infinitesimals; it can be nomographed to within higher-order infinitesimals only if the partial derivatives up to the 4-th order inclusive, satisfy at the point (x_0,y_0,z_0) a special algebraic equation. Another theorem is stated, analogous to

Card 2/3

33756 \$/055/62/000/001/002/007 D299/D303

On the nomographing ...

Theorem 1. An example is given of a polynomial which cannot be nomographed to within 5-th order infinitesimals. Further, nomograms of functions of 4 variables are considered. A nomogram of type (x,y; s,t; w) is defined as the set of the 2 co-planar fields (x,y) and s,t) and of the scale (w), which satisfy certain properties. The function w = N(x,y,s,t), determined by a nomogram of type (x,y; s,t,w), is defined on the set E_{xyst} . A nomogram of type (x,y;s,t,w)

y;s,t;w) is considered. This nomogram is subjected to a projective mapping. Two lemmas are stated which lead to Theorem 3. This theorem states that the function w = f(x,y,st) can be always nomographed to within 2-nd order infinitesimals, but to within higher-order infinitesimals only if the first 2 partial derivatives satisfy a certain condition. An example is given of a function of 4 variables, illustrating the theorem.

ASSOCIATION:

Kafedra matematicheskogo analiza (Department of Ma-

thematical Analysis)

SUBMITTED:

December 28, 1960

Card 3/3

KHEYNES, M.A., doktor fiziko-matematicheskikh nauk, prof.; HOZOVSKIY, M.S.,
kand.tekhn.nauk

Selecting systems of toothed reducing gears made of three
differential three-bar linkages. Vest.mashinostr. 42 no.11:28—
33 N '62. (Gearing)

(Gearing)

S/020/62/144/006/001/015 B112/B104

AUTHORS:

Vostretsov, B. A., and Kreynes, E. A.

TITLE:

Approximation of plane waves by superpositions of plane

waves with given directions

PERIODICAL:

Akademiya nauk SSSR. Doklady, v. 144, no. 6, 1962, 1212-1214

TEXT: The following theorem is demonstrated: Any continuous function $f(\vec{a}\vec{x})$ ($\vec{x} \in D$, $\vec{a} \in M$) can be uniformly approximated (within the domain D) by

continuous sums of the form $\sum_{i} \varphi_{i}(\hat{a}_{i}\hat{x})$ if and only if the point \hat{a} is

algebraically dependent on the set N.

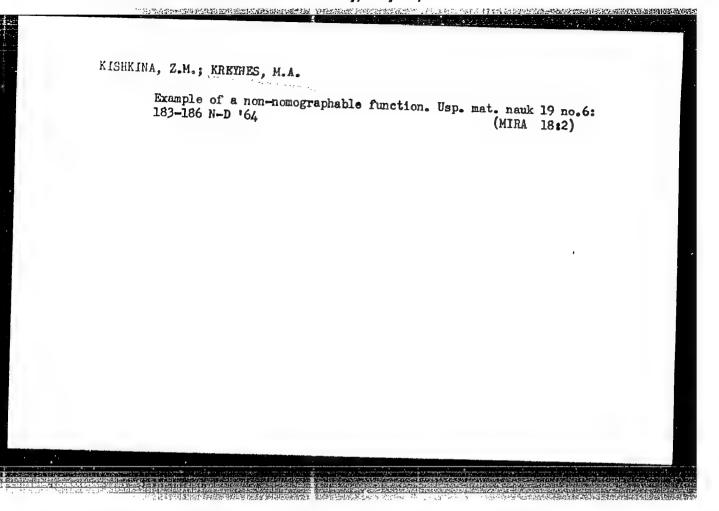
PRESENTED:

February 7, 1962, by A. N. Kolmogorov, Academician

SUBMITTED:

January 20, 1962

Card 1/1



KEEYNES, Mikhail Aleksandrovich; ROZOVSKIY, Maks Solomonovich; BATENINA, T.G., red.

[Gears; mathematical bases for the selection of optimal systems] Zubchatye mekhanizmy; matematicheskie osnovy vybora optimal'nykh skhem. Moskva, Izd-vo Mosk. univ., 1965. 333 p. (MIRA 18:10)

PROTES, 11, 11,

USSR/Math - Nomogram Construction

Cord 1/1

Authors : Kreynes, M. M. and Ayzenshtat, N. D.

Title : On the possibility of nomogram construction with precision up to infenitesimals of the higher order.

Periodical: Doki AN SSSR 95, 6, 1137 - 1140, 21 April 1954

Abstract: Theorems on nomogram construction of higher degrees of precision, analytical expression of the nomograms and their analyses are given in the article. The article also contains two exemplary diagrams.

Institution: N. V. Lomonosov State Univer. at Moscow

Submitted : 21 Feb 1954

APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R0008264300

KREY, NES, N.M.

USSR/Physics - Magnetic properties of ions

FD-3249

Card 1/1

Pub. 146 - 8/44

Author

: Borovik-Romanov, A. S.; Kreynes, N. M.

Title

Magnetic properties of trivalent ions of europium and samarium

Periodical

Zhur. eksp. i teor. fiz., 29, No 6(12), Dec 1955, 790-797

Abstract

: Measurements of the magnetic susceptibility of Eu₂O₃, Sm₂O₃ (in two crystalline modifications) and of Sm₂(C₂O₄)₃·10 H₂O from 12 to 300°K. The authors discover a strong dependence of the magnetic properties of samarium ion upon the crystalline structure of the compound in which it is a constituent. With decrease in the influence of the crystalline field the experimental curves of the temperature dependence of magnetic susceptibility approach the theoretic curve of Van Fleck for free ions. They describe the apparatus used for the measurement of the magnetic susceptibility in a wide range temperature. The authors thank Professor P. G. Strelkov for his interest and Professor I. N. Zaozerskiy for supplying specimens and giving advice. Twelve references.

Institution

Moscow State Institute of Measurements and Measuring Instruments

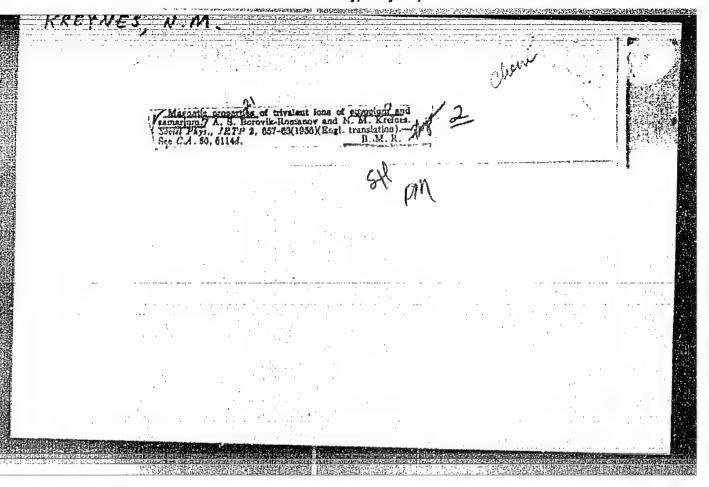
Submitted

August 10, 1954

KREYNES, N. M., KARASIK, B. R., and BOROVIK-ROMANOV, A. S.

"Magnetic Properties of Co and Mn Carbonates and of anhydrous Sulphates of Ni 77, Fe **Co ** and Cu ** 7, a paper submitted at the International Conference on Physics of Magnetic Phenomena, Sverdlovsk, 23-31 May 56.

"Anti-ferromagnetism of anhydrous Sulphates of Rit, Fet, Cot, Cut," paper presented at the International Conference on Physics of Magnetic Phenomena, Sverdlovsk, USSR, 23-31 apr 1956.



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SUBJECT . USSR / PHYSICS CARD 1 / 2 PA - 1323 AUTHOR

BOROVIK-ROMANOV, A.S., KARASIK, V.R., KREJKES, N.M. The Antiferromagnetism of the Dehydrated Sulphates of Ni ++ Fe++ TITLE

Co++, Cu++,

Zurn.eksp.i teor.fis, 31, fasc. 1, 18-24 (1956) Issued: 9 / 1956 reviewed: 10 / 1956 PERIODICAL

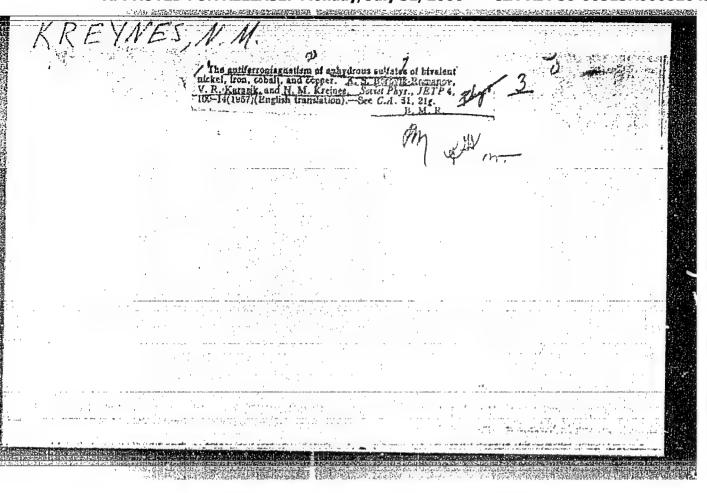
Apparatus and samples: Magnetic susceptibility is measured by the FARADAY method by means of an apparatus developed by BOROVIK-ROMANOV and KREJNES. This apparatus is suited for measuring within the temperature range of 12-300°K. Temperature was measured by means of a copper-constantan thermocouple. Susceptibility was measured at different values of field strength of from 500-2500 cersted. All samples examined were won by eliminating water from the corresponding crystal hydrates.

Measuring results: The magnetic susceptibility of all 4 dehydrated sulphates was measured at temperatures of from 13 to 300° K. For the molar susceptibility of Niso4, FeSo4 and CoSo4 4,97; 12,4 and 9,87 respectively was found. All these three sulphates have a characteristic maximum of susceptibility at the CURIE temperature of $T_C = 37^{\circ}K$ for NiSO₄; 21°K for FeSO₄, and 15,5°K for CoSO₄. At temperatures that are considerably higher than CURIE-temperature the CURIE-WEISS rule $\chi = C/(T + \Theta)$ holds good for all sulphates. The susceptibility of CuSO₄ increases noticeably at temperatures below 200 K, and it diminishes considerably at $\sim 35^{\circ}$ K. Various differences as against the results obtained by

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Žurn.eksp.i teor.fis, 31, fasc.1, 18-24 (1956) CARD 2 / 2 PA - 1323 the laboratory of LEYDEN are pointed out and discussed. Conclusions: The 3 dehydrated sulphates NiSO4, FeSO4 and CoSO4 pass over into the antiferromagnetic state at the temperatures 37.21 and 15.50 K, The sharp break of the curve of the temperature dependence of the magnetic susceptibility of CuSO, and the course taken by the curve below 35° K may be explained by the fact that below this temperature half of the magnetic copper ions arranges itself antiferromagnetically. The other half of the ions remains unarranged and is responsible for the increase of susceptibility. The temperature dependence of the magnetic susceptibility of CoSO_d deviates considerably from the CURIE-WEISS rule at low temperatures in the paramagnetic domain, and diminishes with abnormal rapidity in the antiferromagnetic domain. This is explained qualitatively by the splitting up of the main level of the Co⁺⁺ ion by the crystal field. In the range of temperature of from 14 to 34° K the magnetic susceptibility of the NiSO, which is in the antiferromagnetic state depends quadratically on temperature. INSTITUTION: All-Soviet Scientific Research Institute for Physical-Technical

and Radiotechnological Measurements.



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23(C): 5(4); 6(2) PHASE I BOOK EXPLOITATION 507,2215 Vessoyninyy nauchno-lasiedovatel'skiy institut metrologii ineni D.I. Wendeleyeva	Referety nauchno-issledovatel'skikh rabot; sbornik Mo. 2 (Scientific Research Abstracts; Collection of Articles, Mr. 2) Fiscow, Standartefiz, 1998. 1390 1,000 topies printed. Additional Sponkoring Agency: USSR, Komitet standartor, mer 1 izmeritel'nykh priborow.	Ed.: S. V. Reshetins; Teth. Ed.: M. A. Kondrat'yeva. FURPOSE: These reports are intended for scientists, researchers, and engineers engaged in descipting standards, measures, and	COVERAGE: The volume contains 12d reports on standards of measurement and control. The reports were propared by scientists of infattures of the Konite standarrow, meri infattures of the Konite standarrow, meri infattures of the Konite standarrow. The standards in the participating institutes are VSIR Countl of Minascrs). The participating institutes are VSIR Countl of Westownyr manchorisaledownelskip meric institute of Netrology iment D.I. Nendalayers (All-Union Scientific Research Institute of Netrology institutes; VMIX. "Vessoyimnyr nauchorisaledownelskip institute of this institute of the Commission of All-Union Scientific Research institute of the Commission of Standards Headers, and Measuring Institute of the Commission of Standards Headers, and Measuring Institute of the Commission of Standards Institute and Standards Headers and Measuring Institute and Institute and Standards Institute Anderder Institute Institute Institute Institut	Weesdyniny Fauchno-issledowski iskiy institut flizke-tekhni- cheskin i radiotekhnisterskin izrernik (ili-uhico Forentife Resarch institute of Physicocennical and Radio-estiteeling Resarcents) in Noscow infolker. Institut ser i immericol'nym priborov (barkin scalinsvenny institut ser i immericol'nym priborov (barkin scalinstitut birskiy gosudarstveny institute er i immerical ingul priborov (borosibirsk Sate Institute of Mesaures and Mosauring Institut entis). No personalities are menioned. There are no references Estan, #5. (Willin), Decembring the pripart of the scale institute of Mesaures and Standard Masanced (Futbo Katte) These by the Arealities and Standard	(Wilelf). Designing a Migh-pressure Viscometer:	Malyarow, G.A. (WAIM). Determining Water Viscosity at 20°C feeperature Measurements (Kondint'yev, G.M., Editor, Professor)	Strelkow, P.G., A.S. Borovik-Rominos, and M.P. Orlowa (TMIFFRI). Practical Temperature Scale in the Range 90-100 K	Borowik-Romanov, A.S., M.P. Criove, and M.M. Ersynes ('NIIPTRI), Determining Deviations from Collife at Low Temperatures for the Purpose of Estaing Methods for the Construction of a Magnetic Scale of Temperatures Bolow 10^{16}	######################################	

APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R0008264300

307/56-35-4-45/52 24(3)

Borovik-Romanov, A. S., Kreynes, N. M. AUTHORS:

The Transition From the Antiferromagnetic to the Ferromagnetic TITLE:

State in CoSO (Perekhod iz antiferromagnitnogo v ferro-

magnithous sostoyaniye v $CoSO_A$)

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1953, PERIODICAL:

Vol 35, Nr 4, pp 1053-1055 (USSR)

In the range of $15^{\circ} \mathrm{K}$, $\cos O_4$ goes over into the antiferromagnetic ABSTRACT:

state. By a method previously described the authors produced CoSO, single crystals without mater weighing ~1.5 mg, and in-

vestigated their magnetic properties within the temperature range of from 1.3 to 70 K. These crystals were bipyramidal in shape. Measurements were carried out along the axis connecting the vertices of the pyramids and along the edges of the ground surface. At all temperatures and at field strengths of up to ~4000 Oe magnetic susceptibility does not depend on field strength. The results obtained by susceptibility measure-

ments carried out along all 3 exes of the crystal are shown

CIA-RDP86-00513R000826430

507/56-35-4-45/52

The Transition From the Antiferromagnetic to the Ferromagnetic State in CoSO,

by a diagram. The curves thus obtained confirm that $\cos O_A$ goes over into the ferromagnetic state at $T_{\rm H}=12^{\rm O}{\rm K}$. A very sharp susceptibility peak along the a-axis is possibly connected with the character of the splitting-up of levels of the ion ${\rm Co}^{++}$ in the crystal field. At ${\rm T}\!\!\rightarrow\!\!0^{\rm C}{\rm K}$ susceptibility does not tend exactly towards zero on any of the axes. The most interesting results are those obtained for great field strengths. Whereas the susceptibility of the axes b and c is independent of field strength up to field strengths of 18,000 Oe, the magnetic properties along the axis a show considerable anomaly. With the application of a field H along the axis a, the molar magnetic moment of ${\rm CoSO}_4$ increases linearly up to a field

strength of H = 12,000 Oe. With a further increase of H by 1,000 Oe, the moment increases sharply from some 100 to 6,000 CGSM, which is followed by a further slight increase. This anomaly is apparently due to the upsetting of the magnetization vectors of the sublattices and to the transition of the substance under investigation from the antiferromagnetic to the ferromagnetic state. The following facts are of particular

Card~2/4

507/56-35-4-45/52 The Transition From the Antiferromagnetic to the Ferromagnetic State in Coso₄

> Interest; 1) The ferromagnetic moment does not attain a state of saturation even at field strengths of ~18,000 Oe. 2) The ferromagnetic moment amounts to only 30% of the nominal moment, which was calculated on the assumption of a total freezing-up of the orbital moments. Reference is made to works by other authors. A detailed discussion of the anomaly observed follows after the detailed investigation of this phenomenon within the entire temperature range. The authors thank P. L. Kapitsa, Academician, for his constant interest in this work, and they also express their gratitude to Professor P. G. Strelkov for some valuable advice. There are 2 figures and 6 references, 4 of which are Soviet.

ASSOCIATION: Institut fizicheskikh problem Akademii nauk SSSR

(Institute for Physical Problems of the Academy of Sciences

USSR)

Vsesoyuznyy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy (All-Union Institute for Physico-Technical and Radio-

technical Measurements)

24(2), 24(3)

Kreynes, N. M.

507/56-35-6-11/44

TITLE:

AUTHOR:

The Magnetic Anisotropy of the Cu30 -Single Crystal in the Antiferromagnetic State (Magnitnaya anizotropiya monokristalla CuSO, v antiferromagnitnom sostoyanii)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 6, pp 1391-1397 (USSR)

ABSTRACT:

Short reference is made in the introduction to several papers concerning the magnetic susceptibility of copper sulfate at low temperatures (Refs 1-3). In two previous papers, the author himself, together with A. S. Borovik-Romanov (Refs 4, 5) investigated the temperature dependence of the magnetic susceptibility of polycrystalline copper sulfate samples, and he showed that the latter go over into the antiferromagnetic state at T = 34.5 K. For the exact explanation of this anomaly, the temperature dependence of the magnetic susceptibility of copper sulfate single crystals was investigated in the range from 1.5 to 300 K, the results being given by the present paper. The apparatus is described by reference 5, the methods of temperature measurement by reference 6. Measurements were carried out at various values of the magnetic field (from

Card 1/A

The Magnetic Anisotropy of the CuSO₄-Single Crystal in the intiferromagnetic State

12.5 to 13.5 kOe). The error of the absolute susceptibility value amounted to not more than \pm 1.10⁻⁴ per mol. Figure 1 shows a scheme of the experimental arrangement, which is described in short, and so is the production of the samples. The samples of anhydrous CuSO_4 -single crystals had a size of $3 \times 1 \times 0.2 \text{ mm}^3$ and a weight of 1-2 mg, the lattice parameters were determined as a = 4.88 Å, b = 6.66 Å, c = 9.32 Å. For measurements 2 single crystals of 0.95 and 1.1 mg respectively were found suited. The results obtained by the investigations are shown by figures 2 and 3. The former shows the temperature dependence of the reciprocal molar susceptibility $(\chi_1 = \chi_1 = \chi_2; \chi_1 = \chi_1)$. Within the range of from 300 to 85 K χ_1 coincides with χ_1 , at lower temperatures the curve divides and $1/\chi_1$ increases sharply with decreasing temperature, whereas $1/\chi_1$ decreases. The measuring results for $T > 100^{\circ}$ K are from reference 4. Figure 3 shows the temperature dependence of $\chi_{11} = \text{and } \chi_1$ within the range $T \le 60^{\circ}$ K. For $T \le 100^{\circ}$ K are from reference 4. Figure 3 shows the temperature dependence of $\chi_{11} = \text{and } \chi_1$ within the range $T \le 60^{\circ}$ K. For $T \le 100^{\circ}$ K are from reference 4. Figure 3 shows the temperature dependence of $\chi_{11} = \text{and } \chi_1$ within the range $T \le 60^{\circ}$ K. For

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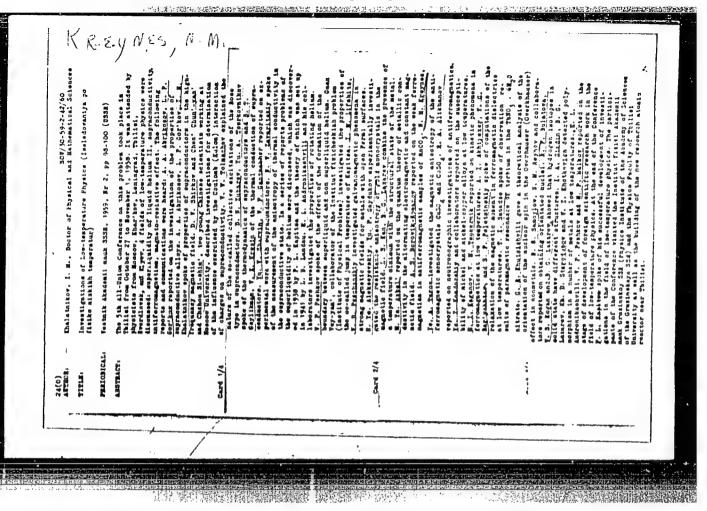
SOY/56-35-6-11/44
The Magnetic Anisotropy of the CuSO₄-Single Crystal in the Antiferromagnetic

at 34.5 $^{\circ}$ K, and if temperature drops further, also χ_{1} decreases slightly. From 60 to 34.5 K χ_{1} develops as a straight line, and if temperature drops further, it decreases and asymptotically approaches the T-axis. Figure 5 once more shows the temperature dependence of χ_{\parallel} on $\text{CuSO}_{\Delta}\text{-single crystals}$ below Curie (Kyuri)-point. In conclusion, the author discusses a possible scheme of the magnetic structure of copper sulface crystal (Fig 4). He thanks A. S. Borovik-Romanov for supervising work, and expresses his gratitude to P. L. Kapitsa, Academician, for the interest he displayed and to Professor P. G. Strelkov for his valuable advice. He further thanks V. I. Kolckel'nikov for assisting in measurements. In a footnote gratitude is expressed to N. N. Mikhaylov who grew the crystals in his laboratory. There are 5 figures and 19 references, 7 of which are Soviet.

ASSOCIATION: Institut fizicheskikh problem Akademii nauk SSSR

(Institute for Physical Problems of the Academy of Sciences,

USSR) and A.U Ind. for Physics - Tech & Padis Engineering



"APPROVED FOR RELEASE: Monday, July 31, 2000

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KREYNES, N. M., CAND PHYS-MATH SCI, "ANTIFERROMAGNETISM OF MN++, NI++, Fe++ AND CU++ ANHYDROUS SULFATES." MOSCOW, 1961. (MIN OF HIGHER AND SEC SPEC ED RSFSR. MOSCOW PHYS-TECH INST). (KL-DV, 11-61, 208).

-14-

22**129** 2/056/61/040/003/009/031 5102/E202

24.2200 138, 1155, 1164

AUTHORS

Kreynes, N.M.

TITLE:

Transition from the antiferromagnetic state into a state

with weak ferromagnetism in a magnetic field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki,

v. 40, no. 3, 1961, 762 - 774

TEXTs This is the continuation of previous papers in which the author together with other scientists studied the magnetic properties of unhydrous sulfates of Ni2+, Co $^{2+}$, Fe $^{2+}$, and Cu $^{2+}$. An anomalous increase in susceptibility near the transition point was observed in the paramagnetic region. In this paper, the author describes the studies of the anomaly observed in CoSO, in the temperature region of from 1.3 - 15°K. It is also demonstrated that the anomalies observed in ${\tt CoSO}_{A}$ and ${\tt CuSO}_{A}$ above ${\tt T}_{\tt N}$ are related to the fact that an antiferromagnetic order occurs in that group of the unhydrous sulfates which shows weak ferromagnetism. The author studied single crystals (produced by N.J. Mikhaylov) with a maxi-

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Transition from the ...

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mum weight of 1.0 - 1.5 mg and a length not exceeding 1 mm, having the form of a quadrangular bipyramid, belonging to the space group D_{2h}^{10} , with the lattice constants a = 8.46 Å, b = 6.66 Å, and c = 4.65 Å. The apparatus used for the magnetic measurements has been described already earlier (dissertation). The accuracy of measurement was 5 - 6 % at high temperatures, and 2% at the low temperatures. At all temperatures, at fields of up to \sim 4 koe susceptibility proved to be independent of the field. In the range of from 300 to 14-18 K the susceptibilities coincided in the directions of the axes a and b, and in almost the entire range $\times_{a,b} > \times_{c}$; only at $T \approx 27^{\circ}$ K, the anisotropy of susceptibility changed its sign. In the range of about 100-300 K, the Curie-Weiss law was fulfilled for both directions, in the c-direction the law $\times_{a,b} > \times_{c}$ [Abstracter's notes printing error?] with a g-factor equal to 2.77. The results of the investigations are graphically represented. Fig. 1 shows the temperature dependence of the reciprocal molar susceptibility in the direction of the axes a, b, c; the susceptibilities have a maximum in all directions at

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Transition from the ...

T_N = 12°K. Figs. 2 and 3 show the dependence of the molar magnetic moment of CoSO₄ in the c-direction on the magnetic field at different temperatures and on the temperature at different field strengths; the figures beside the curves show the temperature in °K, and the field strength in koe. The anomalous increase of the magnetic moment in the magnetic field of CoSO₄ has been observed earlier by S.S. Shalyt (ZhETF, 15, 246, 1945) in FeCl₂; CoSO₄ is the first ion crystal with an antiferromagnetic sign of 9, in which the initial antiferromagnetic structure is distorted by a relatively weak field (cH«kT). The antiferromagnetic order with weak ferromagnetism is theoretically studied by using the theory of phase transitions of second kind by I.Ye. Dzyaloshinskiy. A crystal of this space group has four metal ions per unit cell with the spins \$\frac{1}{3}\cdots \frac{3}{4}\$, the mean magnetic moment of the unit cell is given by m = \frac{1}{2} \frac{3}{3} - \frac{3}{4}\$, the antiferromagnetic moment are defined by \$\frac{1}{1} - \frac{3}{2} - \frac{3}{3} + \frac{3}{4}\$, \$\frac{1}{2} - \frac{3}{3} - \frac{3}{4}\$, \$\frac{1}{3} - \frac{3}{3} - \frac{3}{4}\$, the mean

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Transition from the ...

With $A = \lambda (T-T_N)$ and (6)

$$T_1 = T_N - \lambda^{-1} (a_1 - \beta_2^2/(B + b_2)), \quad T_2 = T_N - \lambda^{-1}(a_2 - \beta_1^2/(B + b_1)), \quad (6)$$

(7)
$$m_{x} = \left[\frac{1}{B+b_{1}} + \frac{\beta_{1}^{2}}{(B+b_{1})^{3}(T-T_{2})\lambda}\right] H_{x},$$

$$m_{y} = \left[\frac{1}{B+b_{2}} + \frac{\beta_{2}^{2}}{(B+b_{2})^{3}(T-T_{1})\lambda}\right] H_{y}, \quad m_{z} = \frac{H_{z}}{B};$$

$$l_{z} = \frac{\beta_{1}H_{y}}{(B+b_{2})\lambda(T_{1}-T)}, \quad l_{y} = \frac{\beta_{1}H_{z}}{(B+b_{1})\lambda(T_{2}-T)}, \quad l_{z} = 0.$$

is obtained for T T_N , with neglection of the term Cl^4 , for T T_N , and $A+Cl^2=0$, $l^2=-A/C$:

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Transition from the ...

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(8)

$$m_{x} = \frac{H_{x}}{B + b_{1} - \beta_{1}^{2} / a_{2}}, \quad m_{y} = \frac{H_{y}}{B + b_{2} - \beta_{2}^{2} / a_{1}}, \quad m_{z} = \frac{H_{z}}{B};$$

$$l_{x} = \frac{\beta_{1} H_{y}}{\beta_{2}^{3} - (B + b_{2}) a_{1}}, \quad l_{y} = \frac{\beta_{1} H_{x}}{\beta_{1}^{3} - (B + b_{1}) a_{2}}, \quad l_{z}^{3} = l^{3} - (l_{y}^{3} + l_{x}^{2}).$$
(8)

is obtained. If the magnetic field lies in the direction of the antiferromagnetic order

(13a)

$$l_{2} = 0, \qquad \frac{\beta}{l_{1}B}H_{z} = C_{1}l_{1}^{2} + \lambda_{1}(T - T_{1}), \qquad m_{z} = \frac{H_{z} + \beta l_{1}}{B};$$

$$l_{3}^{3} = -[\lambda(T - T_{N}) + Dl_{1}^{3}|C_{3}^{-1},$$
(13a)

and (14)

$$\lambda (T - T_N) = A_3, \quad \lambda_1 (T - T_1) = A_1 + a - \beta^2 / B$$
 (14)

are obtained. Finally, the theoretically obtained results for CuSo and $\cos O_A$ are compared with the experimental ones. Good qualitative agreement

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22129

Transition from the ...

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was obtained, especially for CoSO₄. The author thanks A.S. Borovik-Romanov for his interest and the supervision of the studies, Academician P.L. Kapitsa for his interest, I.Ye. Dzyaloshinskiy for advice and discussion, and V.I. Kolokol'nikov for assistance; Ye.A. Turov, V.Ye. Naysh, and V.I. Ozhogin are mentioned. There are 9 figures, 1 table, and 22 references: 12 Soviet-bloc and 10 non-Soviet-bloc.

ASSOCIATION:

Institut fizicheskikh problem Akademii nauk SSSR

(Institute for Physical Problems of the Academy of

Sciences, USSR)

SUBMITTED:

October 25, 1960

Card 6/9 6

26721 S/056/61/041/005/036/038 B109/B102

24,2200 (1160,1164,1482)

AUTHORS:

Katser, Yan, Kreynes, N. M.

TITLE:

Hexagonal anisotropy in MnCO, and CoCO,

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,

no. 5(11), 1961, 1691-1692

TEXT: Measurements of the anisotropy in MnCO, and CoCO, single crystals yielded results which differed considerably from those obtained by M. Date (Ref. 4: Phys. Soc. Japan, 15, 2251, 1961). The measurements were carried out at MnCO, and CoCO, disks which had been prepared by a method according to N. Yu. Ikornikova at the Institut kristallografii AN SSSR (Institute of Crystallography AS USSR). CoCO, specimens:

0.6 mm diameter, 0.35 mm thick, weight 0.472 -0.01 mg, density

Q = 4.25 g/cm³. MnCO, specimens: 1.3 mm diameter, 0.35 mm thick. The trigonal [111] axis of the specimens was perpendicular to the base of the disks. Anisotropy measurements were made by means of torsion balances Card 1/3

26721 \$/056/61/041/005/036/038 B109/B102

Hexagonal anisotropy in...

(D'=1.24·10⁻³ dyne/cm/mm, reading accuracy ^/0.1 mm) at temperatures of liquid helium, hydrogen, and nitrogen, and at room temperature in a magnetic field of 5600 cersteds. The latter value is more than twice the saturation value for MnCO₃ and CoCO₃, as given by A. S. Borovik-Romanov and V. I. Ozhogin (ZhETF, <u>39</u>, 27, 1960). The measurements with MnCO₃ showed that (1) MnCO₃ has a slight hexagonal anisotropy at any temperature, (2) the amount of this anisotropy is less than 1 erg/cm³. This contradicts the values found by Date. (3) Below the Neel point (32.5°K) there is no crystallographic anisotropy at all. In the case of CoCO₃, the measurements showed a strong anisotropy ($K_3 = 634$ erg/cm³ at 4.2° K). On the other hand, $K_3 = 0$ at all temperatures above the Neel point (18.1°K). The field strength at which saturation occurs, was found from the relation $H_{c} = 18 \ K_3/I_{s}$, where I_{s} denotes the spontaneous ferromagnetic moment per cm³ (= 50 CGSE). In this was, H_{c} was found to be 228 cersteds. This value can be explained only when further magnetization processes are assumed Card 2/3

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Hexagonal anisotropy in ...

since the true value of H_c amounts to $(2-5)\cdot 10^{3}$ oersteds. Academician P. L. Kapitsa and A. S. Borovik-Romanov are thanked for their interest and advice. Dzyaloshinskiy is mentioned. There are 5 references: 4 Soviet and 1 non-Soviet.

ASSOCIATION: Institut fizicheskikh problem Akademii nauk SSSR (Institute for Physical Problems of the Academy of Sciences USSR). Fizicheskiy institut Chekhoslovatskoy Akademii nauk (Institute of Physics of the Czechoslovakian Academy of Sciences)

SUBMITTED:

September 23, 1961

Card 3/3

"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000826430

KREYNES, N. M., PROZOROVA, L. A., RUDASHEVSKIY, E. G., BOROVIK-ROMANOV, A. S.,

"Antiferromagnetic Resonance in MnCO3 and CoCO3."

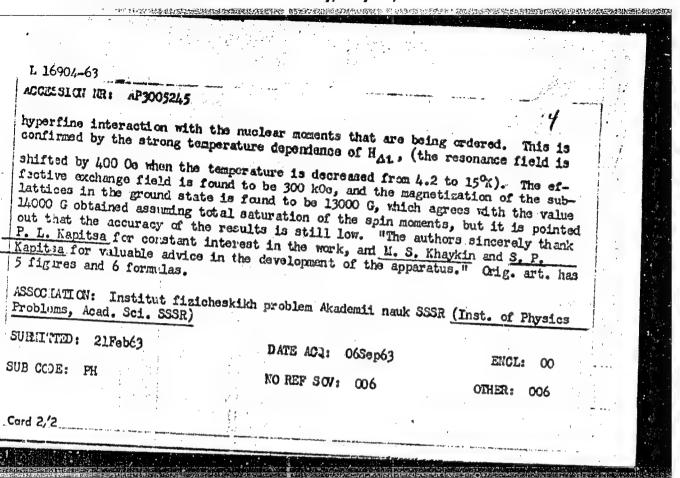
report presented at the Symposium on Ferroelectricity and Ferromagnetism, Leningrad, 30 May-5 June 1963.

L 16904-63 EWT(1)/EWP(q)/EWT(m)/BDS/EEC(b)-2 AFFTC/ASD P1-4 GG/JD ACCESSION NR: AP3005245 S/0056/63/045/002/0064/0070	
AUTHCR: Borovik-Romanov, A. S.; Kreynes, N. H.; Prozorova, L. A. 68 TITLE: Antiferromagnetic resonance in manganese carbonate SOURCE: Zhur element of the company of the c	
SOURCE: Zhur. eksper. i teoret. fiz., v. 45, no. 2, 1963, 64-70 TOPIC TAGS: magnanese carbonate, antiferromagnetic resonance, nuclear moment interaction, crystallographic anisotropy	; C
ABSTRACT: A detailed study was made of the low-frequency branch of antiferromagnetic resonance in MnCO ₃ , in the range 4.5 to 15 Ges. The results are described by the equation (V/Y) ² =H (H + H) + v ²	A
$(V/\chi)^2 = H$ (H + H) + H ² res res D $\Delta 1$ where H _{res} is the external field applied to the basal plane of the crystal, H _D the Dzyaloshinskiy field that gives rise to weak ferromagnetism, and for this case	
is 4.4 kCe, y the gyromagnetic square of the ratio, v the frequency, and for this case the gap in the energy spectrum and amounts to 1.6 ± 0.3 kCe ² . The effective field that gives rise to the gap is due not to the crystallographic anisotropy but to	
	Maria di Caranti di Ca

。 《江江中》:"我们是一个大学,我们就是一个大学,我们就是一个大学,我们就是一个大学,我们是一个大学,我们就是一个大学,我们就是一个大学,我们就是一个大学,我们就

"APPROVED FOR RELEASE: Monday, July 31, 2000

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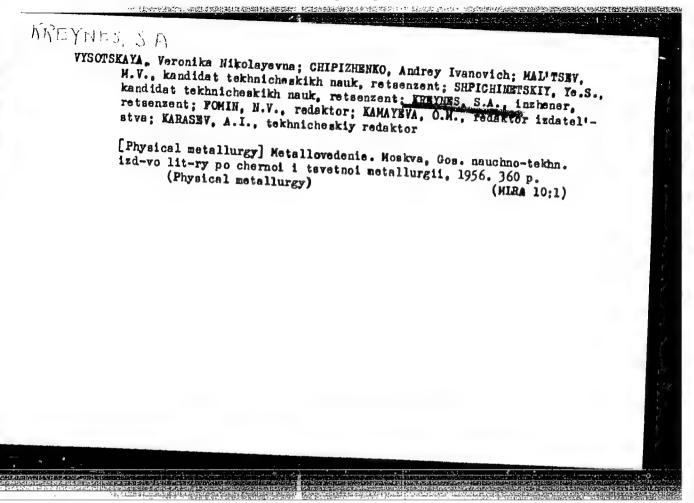


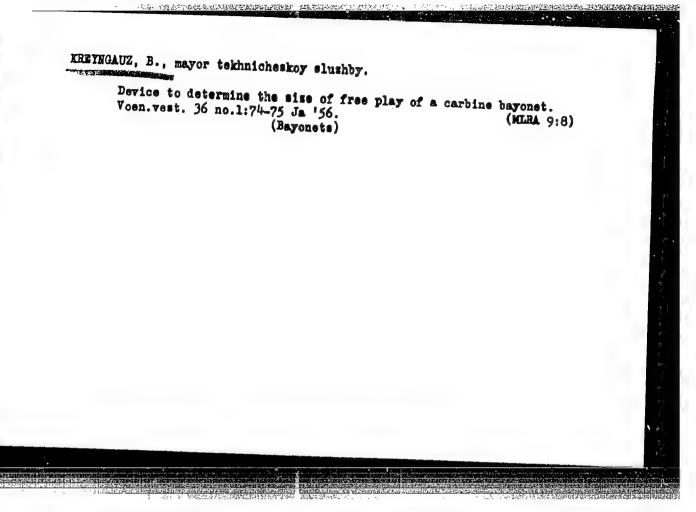
"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000826430

"The electron resonance in rhomboledral antiferromagnets with weak terromagnetism."

report submitted for Intl Conf on Magnetism, Nottingham, UK, U-13 Sep Ch.

Inst of Physical Problems, Moscow.





"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826430

EMMYHOAUT, B. F.

UCSR/Metals Carburization Kinetics

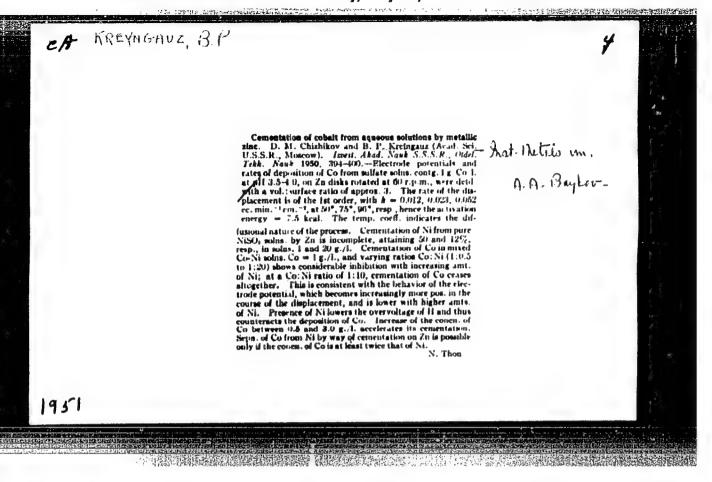
Dec 1947

"Question of Kinetics of Cementation of Cobalt and Nickel From Water Solutions of Metallic Zinc," G. S. Frants, B. 1. Kreyngauz, Metal Instiment A. A. Baykov, Acad Sci USSR, 74 11

"Izv Akad Nauk COSR, Otdel Tekh Nauk " No 12

Object of study was to determine conditions for cementation of cobalt and nickel from sulfuric acid solutions of metallic zinc. Among results obtained was the fact that cementation of nickel and cobalt from water solutions of their salts by means of metallic zinc was possible when concentrations of hydrogen ions was pH-3.5 to 4.0. Authors also were able to determine that with similar amounts of metal, cementation of cobalt was twice as active as cementation of nickel. Submitted by Acalemician 1. P. Bardin, 15 Jul 1947.

PA 57T57



"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000826430

USSR/Chemistry -- Metals

FD-2627

Card 1/1

: Pub. 41-13/21

Author

Kreyngaus, B. P. and Chizhikov, D. M., Moscow

Title

: On the mechanism of the reaction of oxidizing cobalt, in so-

lution, with ozone.

Periodical

: Izv. AN SSSR, Otd. Tekh. Nauk 4, 141-142, Apr 1955

Abstract

: Describes tests whereby cobalt, in solution, is oxidized with ozone. Concludes that the reaction is ionic with a simultaneous hydrolytic separation of cobalt. Photograph of test apparatus.

Three USSR references.

Institution

Submitted

: February 25, 1955

"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000826430

USSR/Engineering - Metallography

FD-3029

Card 1/1

Pub. 41 - 13/15

Author

: Kreyngauz, B. P. and Chizhikov, D. M., Moscow

Title

: On the effect of oxygen and the role of sodium sulfite in the process

of the cementation of cobalt from solution by metallic zinc.

Periodical: Izv. AN SSSR, Otd. Tekh. Nauk 9, 167-169, Sep 55

Abstract

: Presents the results of a study on the effect of dissolved oxygen and the role of sodium sulfite on the cementation of cobalt from a solution of its sulfate by metallic zinc. Describes experiments conducted. Line drawing depicts set-up. Concludes that dissolved oxygen has a negative effect on the rate and degree of cementation of cobalt.

Graphs. Five references, 4 USSR.

Institution:

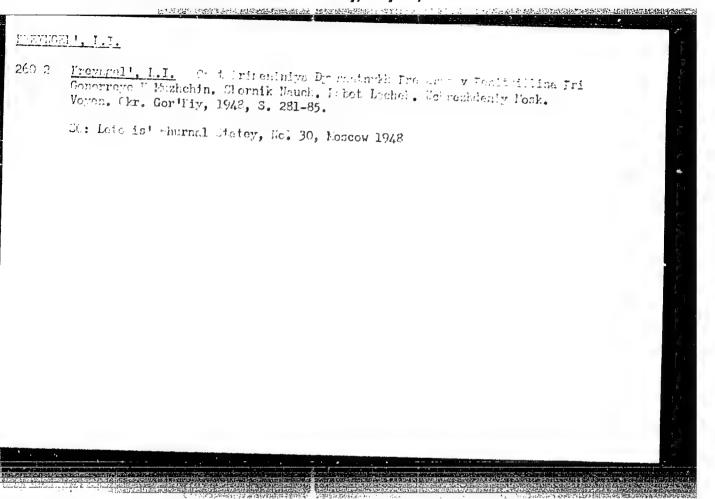
Submitted: May 3, 1955

CHIZHIKOV, David Mikhaylovich; GULYANITSKAYA, Zoya Feodos'yevna; GUROVICH, Natal'ya Aleksandrovna; KITLER, Igor' Nikolayevich; KREYNGAUZ, Bella Pavlovna; NOVOSELOVA, Valentina Nikolayevna; PLIGINSKAYA, Lyubov' Vladimirovna; USTINOVSKIY, Boris Zinov'yevich; KLIMOV, V.A., red. izd-va; LAUT, V.G., tekhn. red.

[Hydro- and electrometallurgy of sulfide alloys and mattes] Gidroelektrometallurgia sul'fidnykh splavov i shteinov. Moskva, Izd-vo Akad. nauk SSSR, 1962. 204 p. (MIRA 15:9)

1. Chlen-korrespondent Akademii nauk SSSR (for Chizhikov). (Sulfides--Metallurgy) (Hydrometallurgy) (Electrometallurgy)

"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000826430



PORUDOMINSKIY, I.M.; KREYNGEL', L.I.; TARBEVSKIY, S.N.

Administration of penicillin associated with autogenous blood in the treatment of gonorrhea. Vest. vener., Moskva No.1:36-40 Jan-Feb 52.

(CIML 21:4)

1. Professor for Porudominskiy. 2. Of the Department of Gonorrhea (Head--Prof. I.M. Porudominskiy), Central Skin-Venereological Institute (Director--Candidate Medical Sciences N.M. Turanov).

PONUDOMINSKIY, I.M.; DANSKIY, F.I.; KREYNGEL, L.I.; TARBEYEVSKIY, S.N.

Streptowycin in the treatment of gonorrhea in males. Vest. vener.,
Noskva no. 5:37-39 Sept-Oct 1952. (CLML 23:3)

1. Professor for Porudominskiy; Candidate Medical Sciences for Danskiy.
2. Of the Central Skin-Venereological Institute (Director -- Candidate Medical Sciences N. M. Turanov), Ministry of Public Health USSR,

THE THE TENENT OF PARTICIPATION OF THE PROPERTY OF THE

20774 S/051/61/010/003/008/010

9,5320 AUTHORS:

Gross, Ye. F. and Kreyngol'd, F. I.

TITLE: Infrared

Infrared Absorption Spectrum of Silver Oxide

E032/E514

PERIODICAL: Optika i spektroskopiya, 1961, Vol.10, No.3, pp.417-418

TEXT: The present authors have investigated the infrared absorption spectrum of Ag₂O. The specimens investigated were 10 to 100 μ thick. The Ag₂O powder, which was compressed to produce these specimens, was obtained from silver nitrate-alkali reaction (M. M. Pavlyuchenko and E. Gurevich, Ref.4). The precipitated Ag₂O was washed in distilled water and dried at 80°C. In order to prevent decomposition of Ag₂O by light, both the reaction and all the subsequent operations were carried out in red light. Chemically pure commercial Ag₂O was also used. The measurements were carried out in the region 410-1500 cm⁻¹, using the NK(-6 (IKS-6) and IKS-14 infrared spectrometers. Three absorption bands were found in the infrared spectrum of Ag₂O in the above wave number region. They are: two narrow bands at 1073 cm⁻¹ and 802 cm⁻¹ and a wide band with a maximum at 530 cm⁻¹. An attempt was then made to compare this spectrum with the infrared absorption spectrum of Cu₂O.

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Infrared Absorption Spectrum...

Card 2/3

S/051/61/010/003/008/010 E032/E514

The latter has been extensively investigated by I. Pastrnyak Since the Ag₂O spectrum should be displaced relative to the Cu₂O spectrum towards longer wavelengths, the 1073 and 802 bands can be directly compared with the 1124 and 848 cm⁻¹ bands of $\rm Cu_2O$. In fact, an estimate of the positions of the absorption bands of ${\rm Ag}_2{\rm O}$ corresponding to the above two bands of ${\rm Cu}_2{\rm O}$ yielded the values 1080 and 812 cm⁻¹. The discrepancy between these estimated values and the experimental values is very small and can probably be explained by differences in the lattice constants of Moreover, the Ag₂0 bands are narrower than the Ag₂O and Cu₂O, The wide Ag₂0 band at₁530 cm⁻¹ has an absorption eater than 1000 cm⁻¹ and hence can be compared Cu,0 bands. coefficient greater than with the strong absorption bands of Cu₂O with a "centre of gravity" at 630 cm⁻¹. The 530 cm⁻¹ band is more displaced towards the long wavelengths than the 802 and 1073 bands. The results obtained can be explained by assuming the presence of non-polar bonds both in Ag20 and in Cu20. The fraction of the homeopolar component in Ag20 should be greater than in Cu20. Comparison of the absorption spectra of Ag_2O and Cu_2O shows that the absorption band at 8.9 μ